# Release B Technical Baseline

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**31 March 1995**

# Topics

**Missions Supported**

**Required Capacities**

- **Processing**
- **Storage**

# Release B Missions

| Platform | Instruments | Launch Date |
|---|---|---|
| TRMM (cont. from A) | CERES, LIS, VIRS PR, TMI | Aug. 1997 |
| Landsat -7 | ETM | May 1998 |
| Flight of Opportunity | COLOR | May 1998 *(July 1998)* |
| AM-1 | ASTER, CERES, LIS, MISR, MODIS | June 1998 |
| METEOR | SAGE III | Aug. 1998 |
| ADEOS II | SEAWINDS | Feb. 1999 |
| RADAR ALT | SSALT *(DFA)*, MR | Mar. 1999 |
| Flight of Opportunity | ACRIM | June 1999 |

**In addition support for RADARSAT, ERS-1, ERS-2 and JERS-1 at ASF and DAO @ GSFC**

# Missions Not Included in Release B

**ENVISAT**

**HIROS**

**FOO CERES**

**PM-1**

**SAGE III (Space Station)**

**CHEM-1**

**LASER ALT**

# Capacity Estimates Sources

| | |
|---|---|
| TRMM (CERES/LIS) | AHWGP |
| TRMM (TMI/PR/VIRS) | TRMM IRD |
| Landsat -7 | ECS/Landsat-7 IRD |
| COLOR | Nov. 1994 SPSO |
| AM-1 | AHWGP |
| METEOR/SAGE III | Nov. 1994 SPSO |
| ADEOS II/SEAWINDS | Nov. 1994 SPSO |
| RADAR ALT/SSALT | Nov. 1994 SPSO |
| ACRIM | Nov. 1994 SPSO |
| ASF supported Missions | Science Data Plan, ASF Interface Meeting |
| DAO | CCR505-01-041-073 |
| V0 | Science Data Plan (With refinements) |
| IDS Data Input | Appendix C of F&PRS |

# Processing Estimates

**Instrument Team Inputs to AHWGP Expressed as**

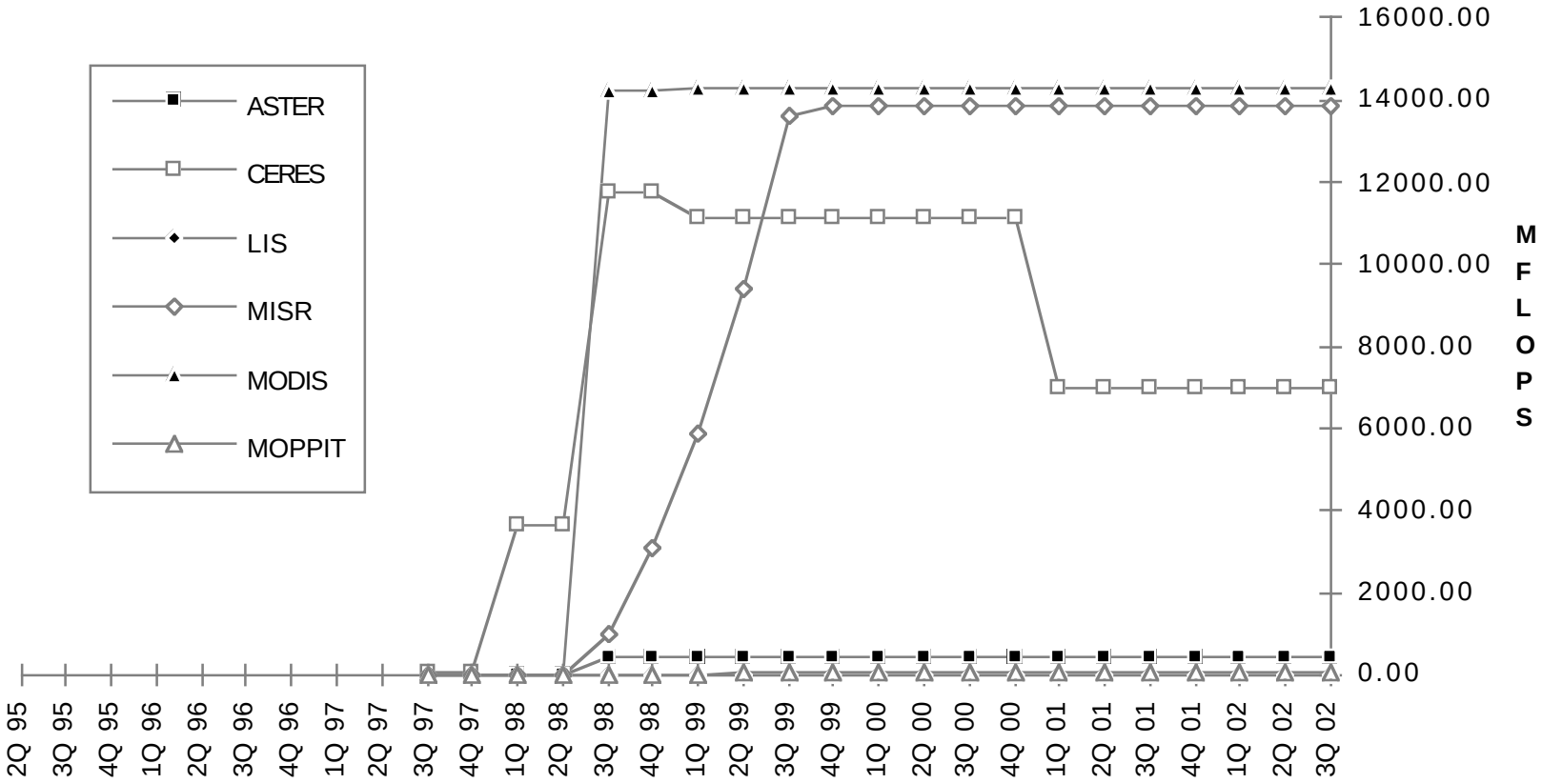
- **“Theoretical” Floating_Point_Operations per Execution**
- **Execution Frequency**
- **Based on Operations Counts or Normalized Benchmarks**
- **Divide by allowed execution time to get “theoretical” FLOPS**

**“Theoretical” FLOPS specified as part of SPSO for Non-TRMM/AM-1**

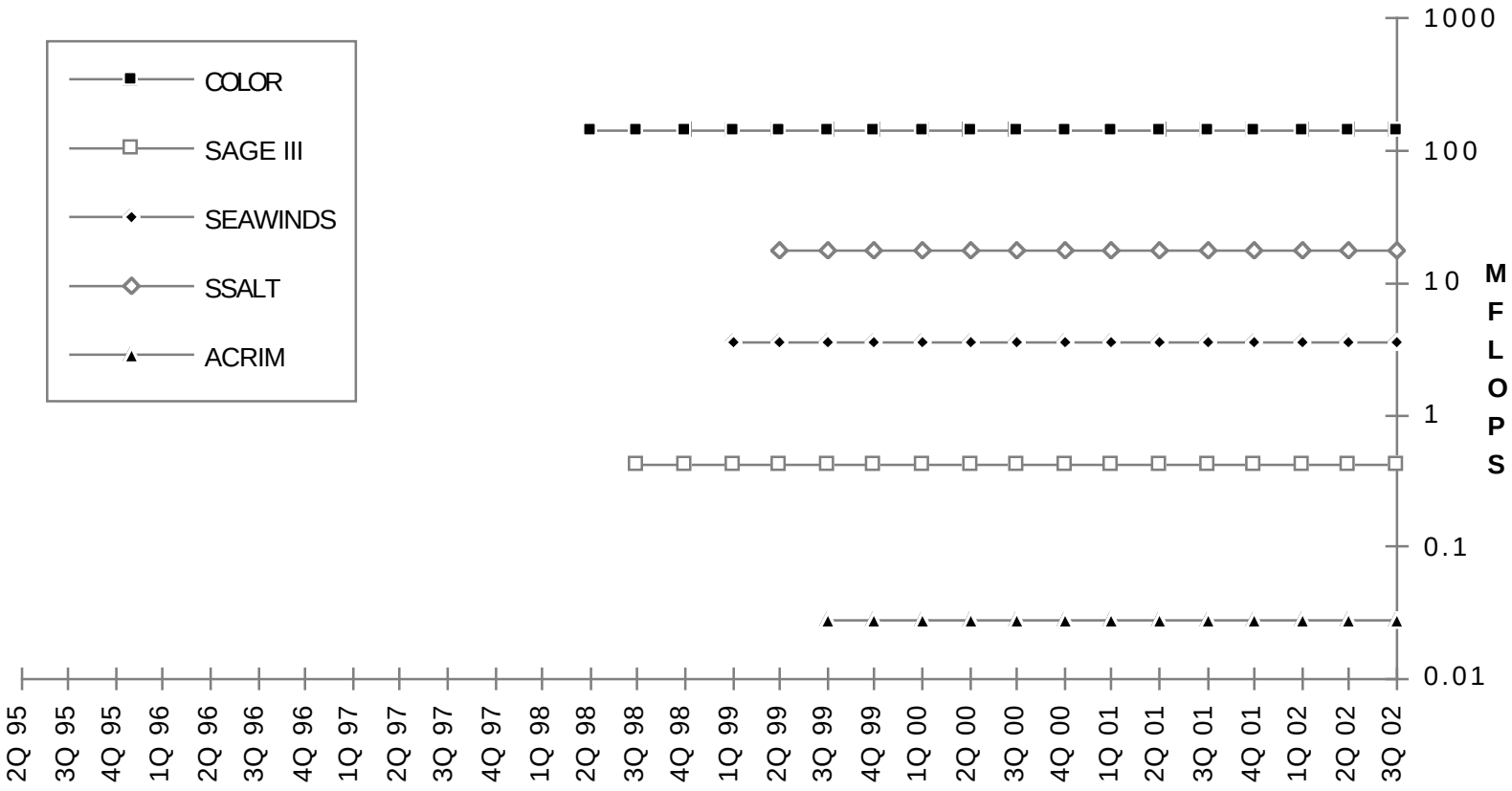
**“Theoretical” values multiplied by 4 to get required COTS rating (“peak” FLOPS)**

***All Graphs in this presentation show “Peak” FLOPS***

# Processing by Instrument (TRMM/AM-1)



# Processing by Instrument (Non-TRMM/AM-1)



# Total Processing Reqmts.

**Algorithm Integration & Test Estimate Based on Engineering Judgment**

**Reprocessing Profile Based on UARS Experience**

**Total (AI&T + Processing + Reprocessing):**

**= 0.3 X at L-2 years**

**= 1.2 X at L-1 year**

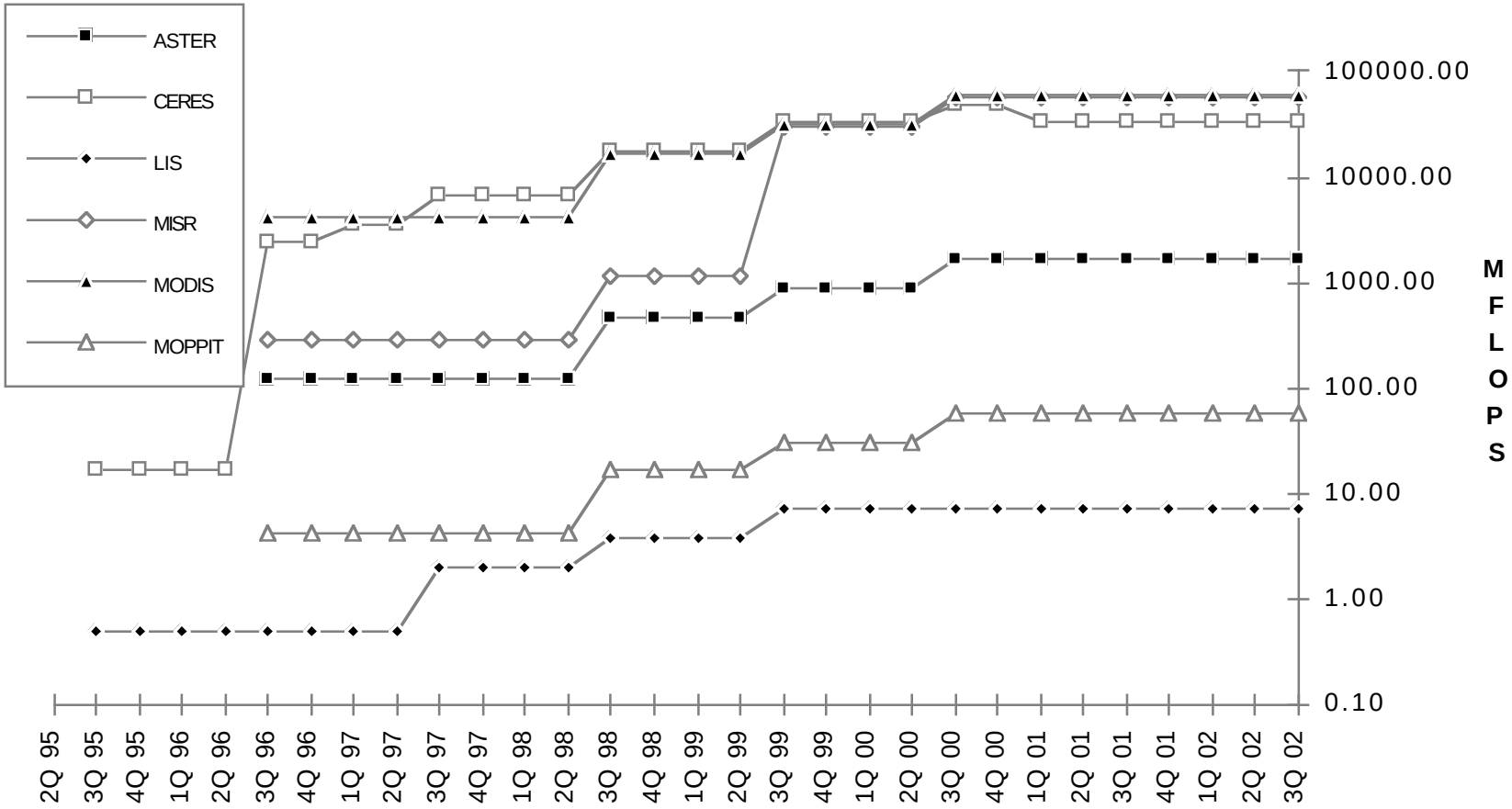
**= 2.2 X at L+1 year**

**= 4.2 X at L+2 years**

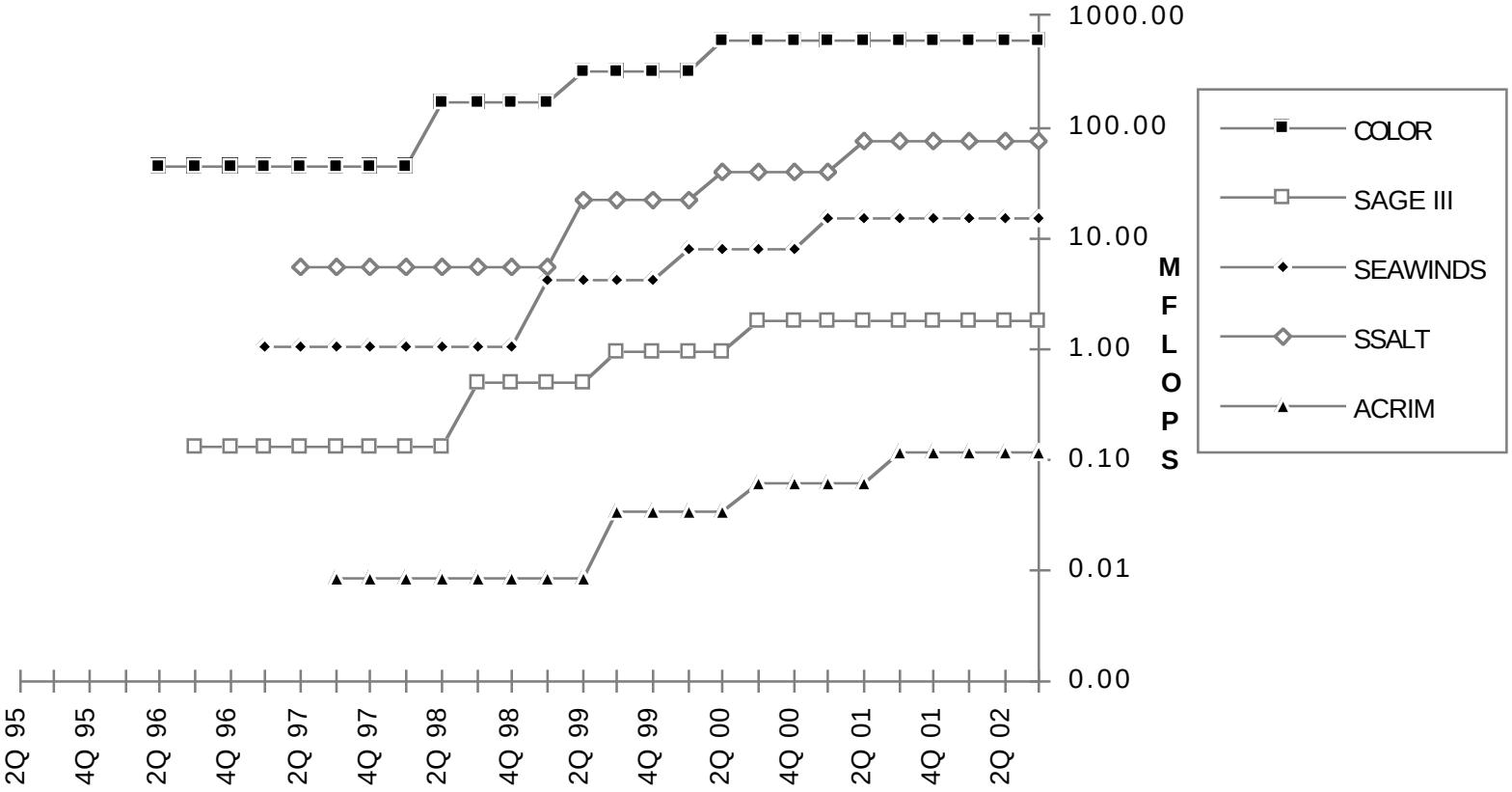
**where X = at-launch processing for pre-launch period**

**X = quarterly processing for post-launch period**

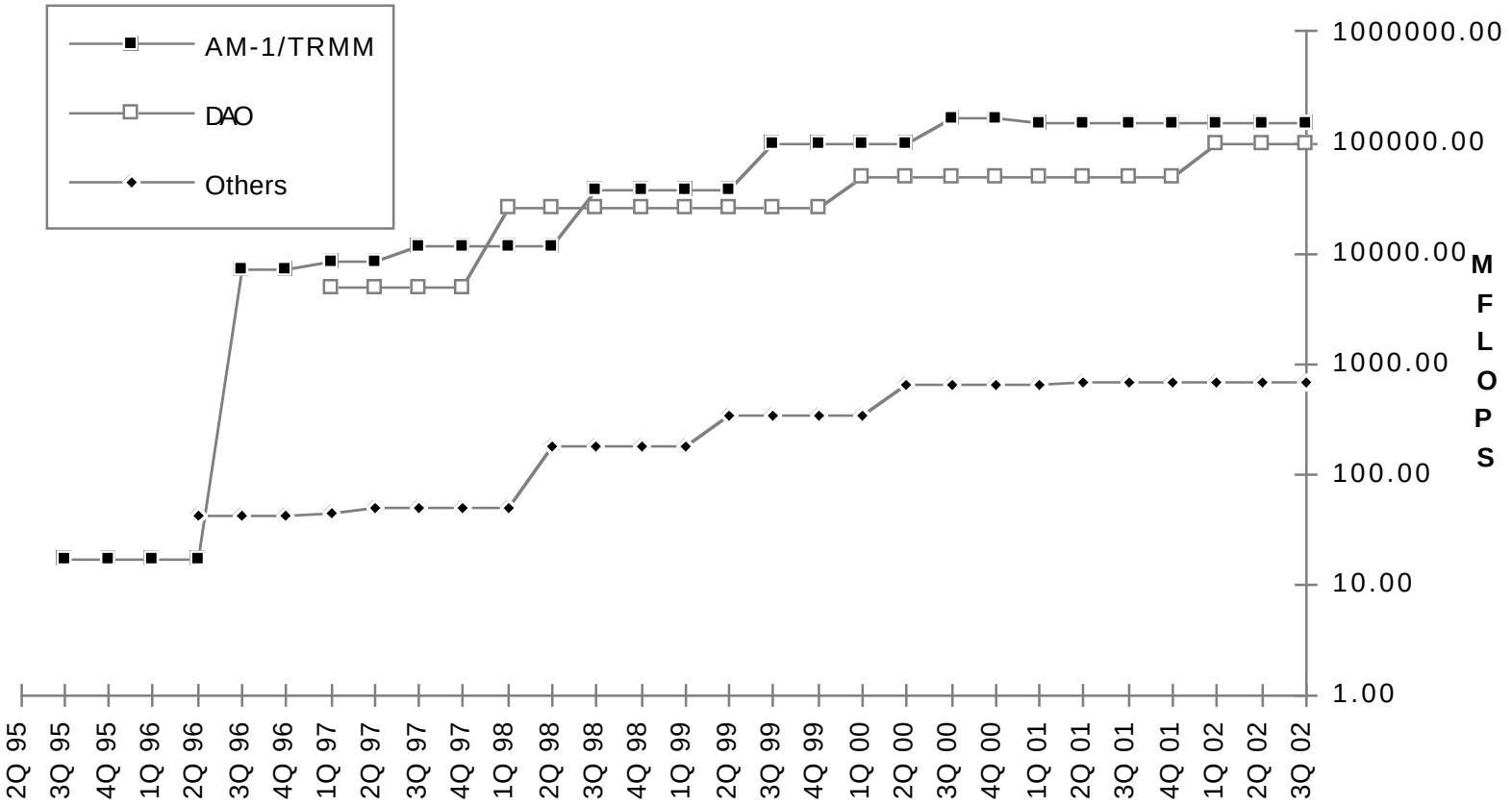
# AM-1/TRMM Processing



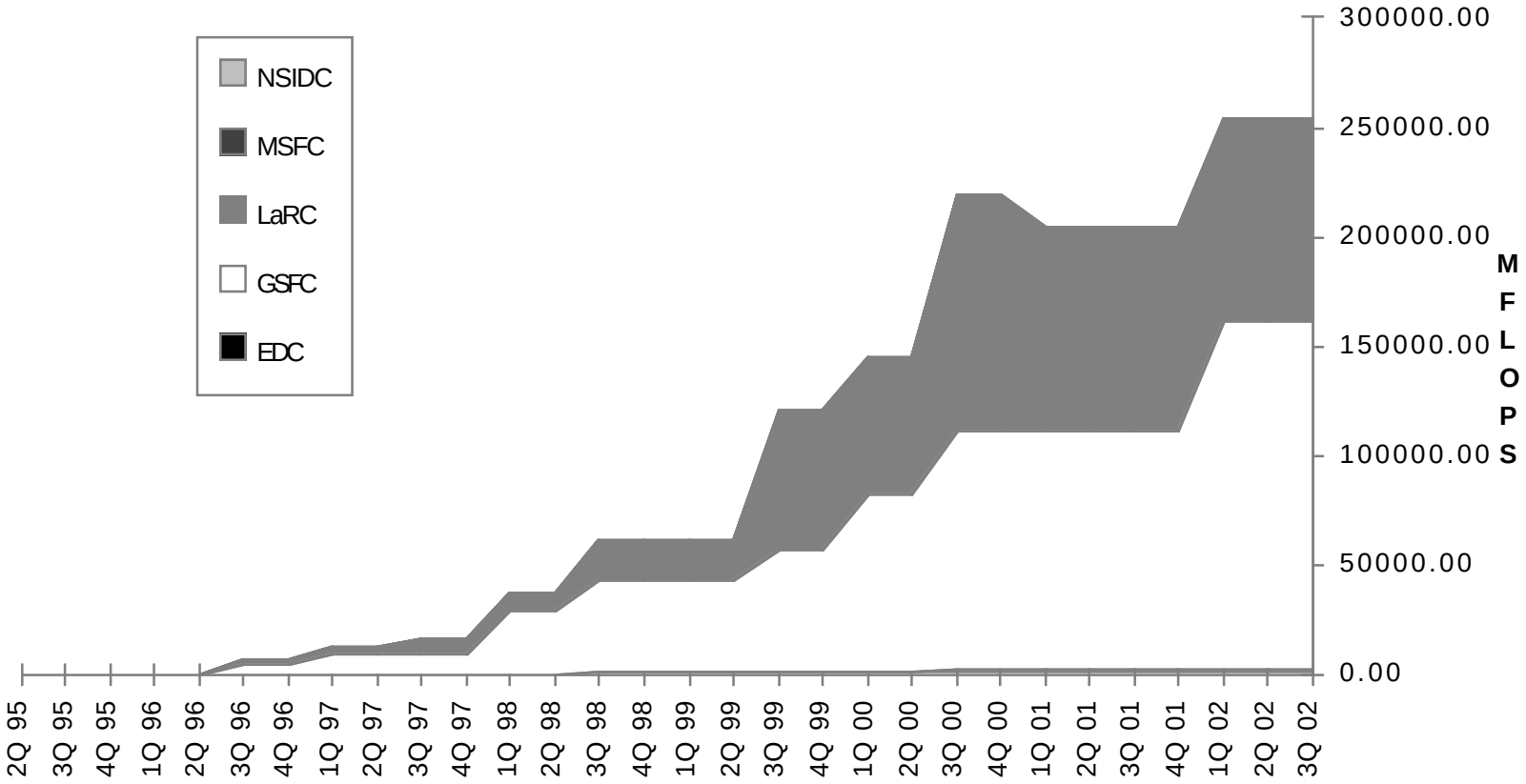
# Non AM-1/TRMM Instruments Processing Reqmts.



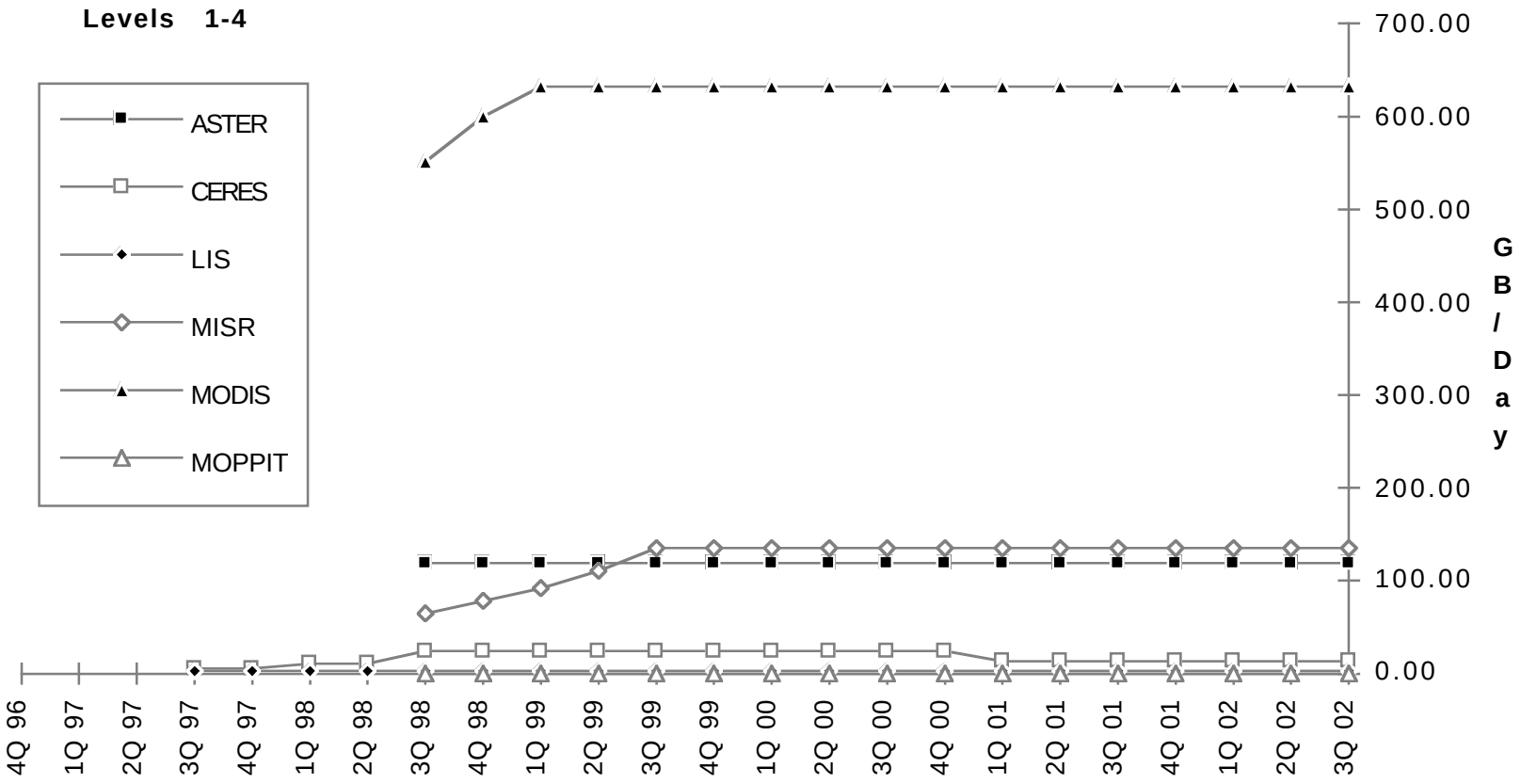
# Process Capacities



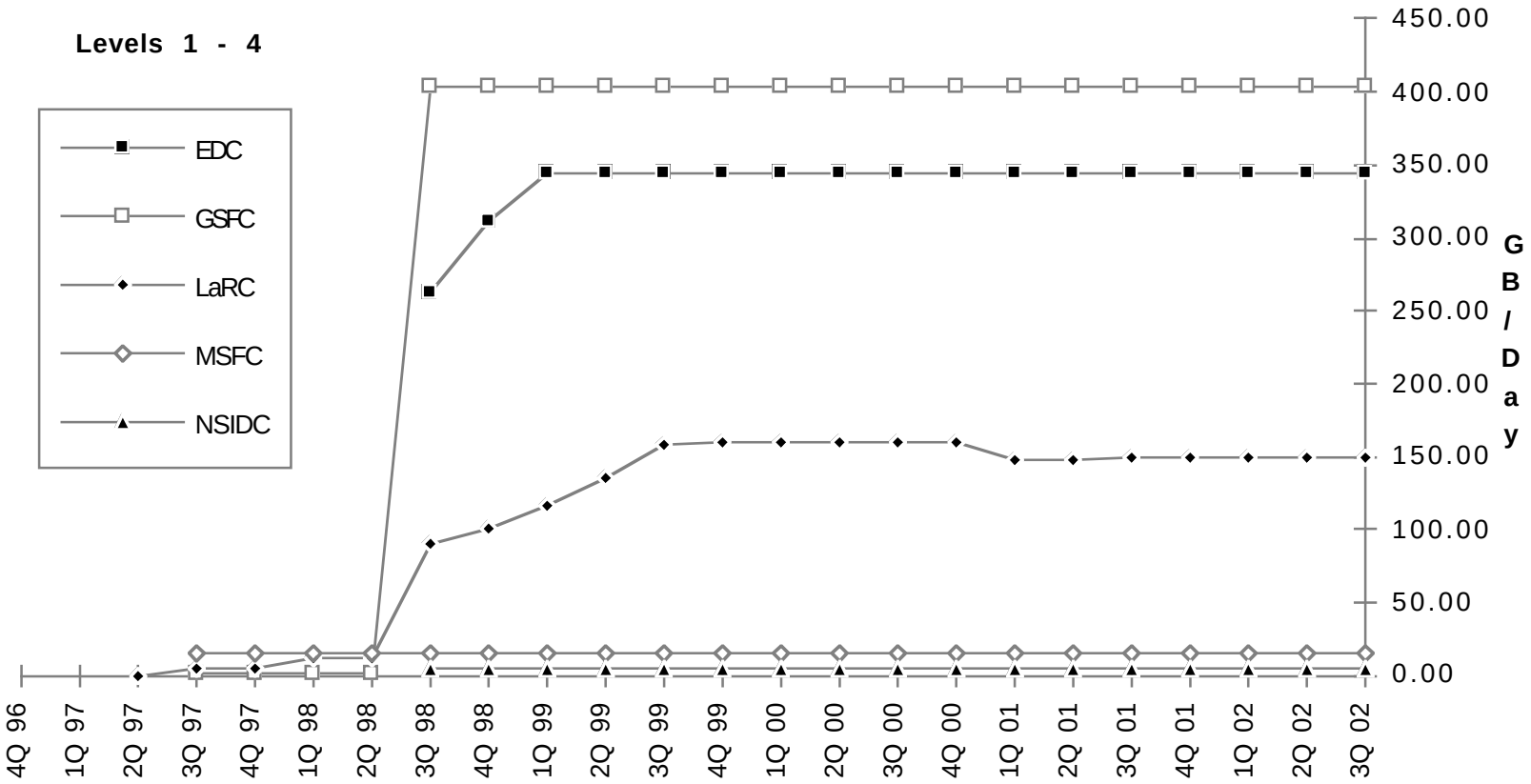
# Total Processing by DAAC



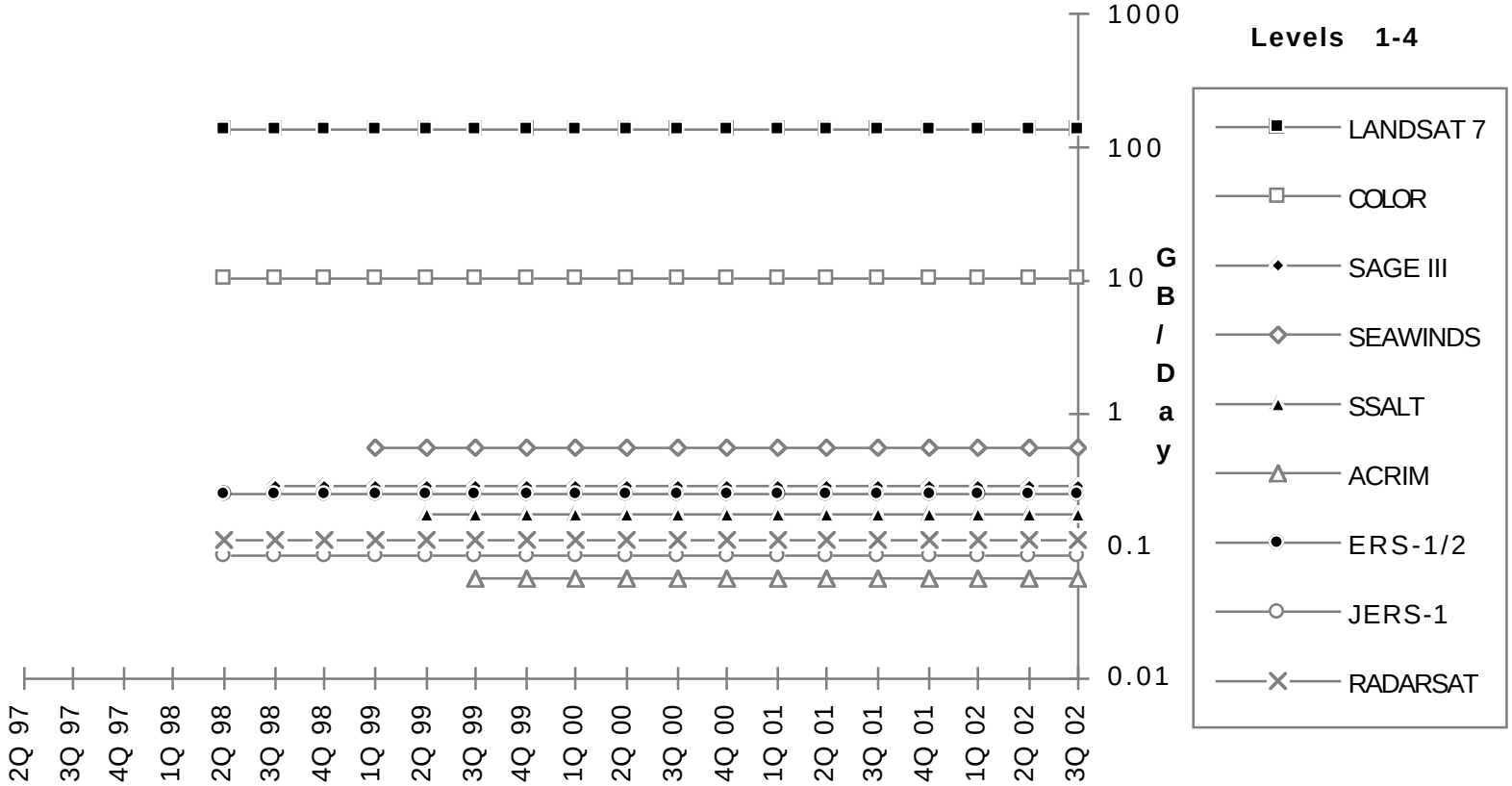
# Data Volume by Instrument (TRMM/AM-1)



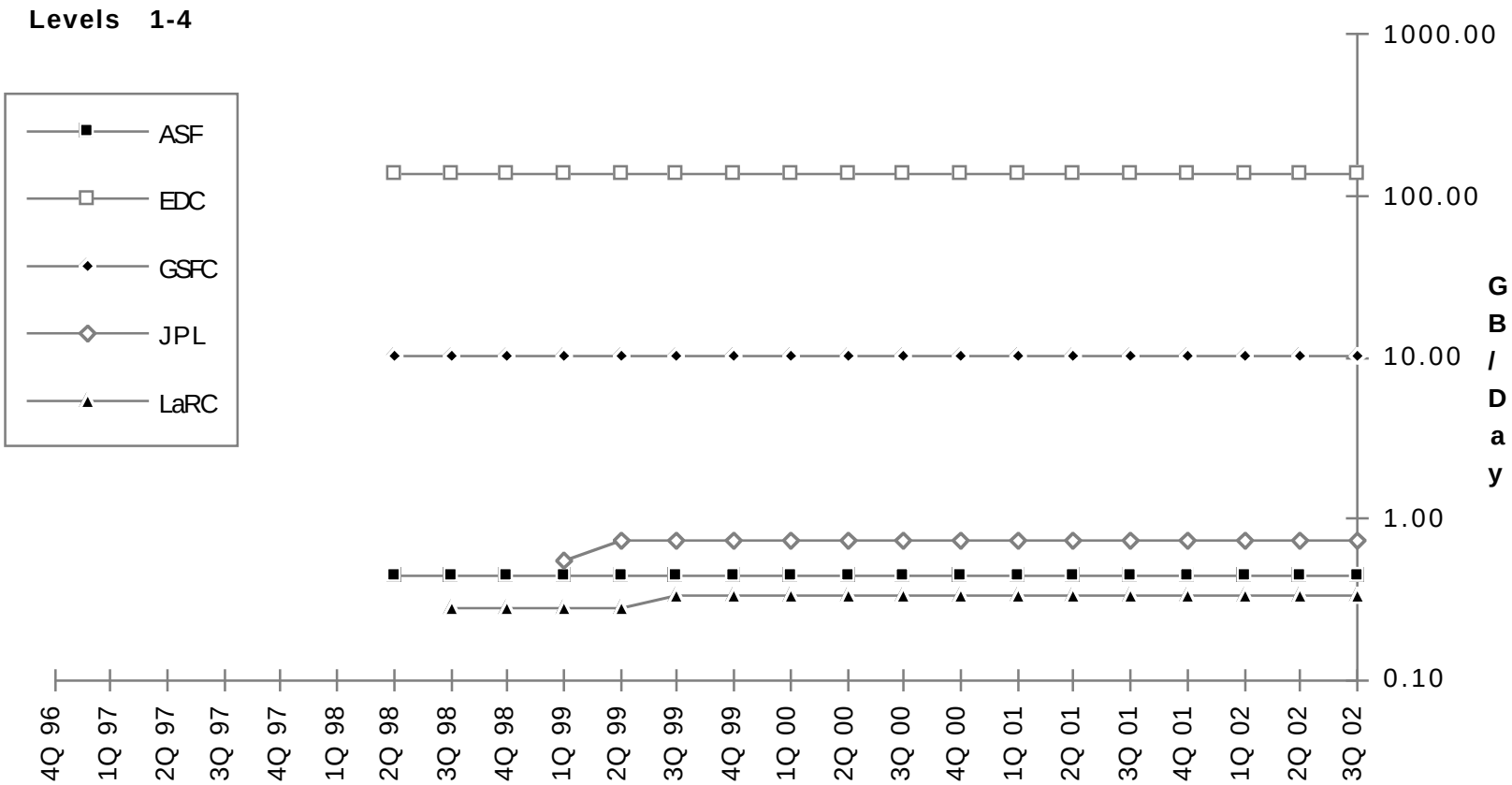
# Data Volume by DAAC (TRMM/AM-1)



# Data Volume by Instrument (Non AM1/TRMM)



# Data Volume by DAAC for Non AM-1/TRMM Instruments



# Archive Requirements

All Level 1-3 Standard Product Data

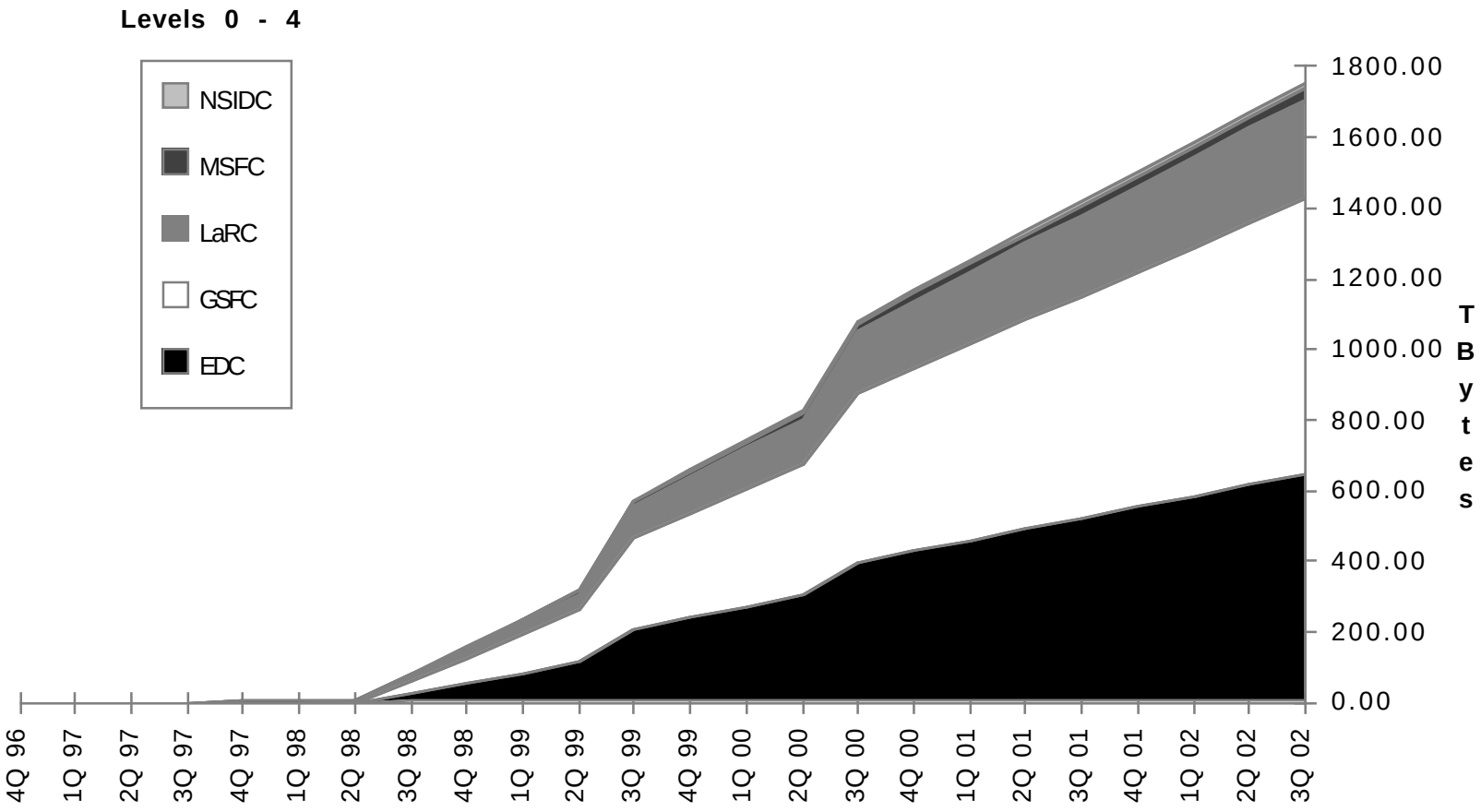
6 Months Spare Capacity to Support Reprocessing (Total of 12 months due to reprocessing at twice the rate of normal processing - 6 months @ L +1 yr and 6 months @ L +2 yr)

Level 0 Archived if No Level 1A Product (CERES, LIS, MOPITT, COLOR, SeaWinds, SSALT, SAGE III)

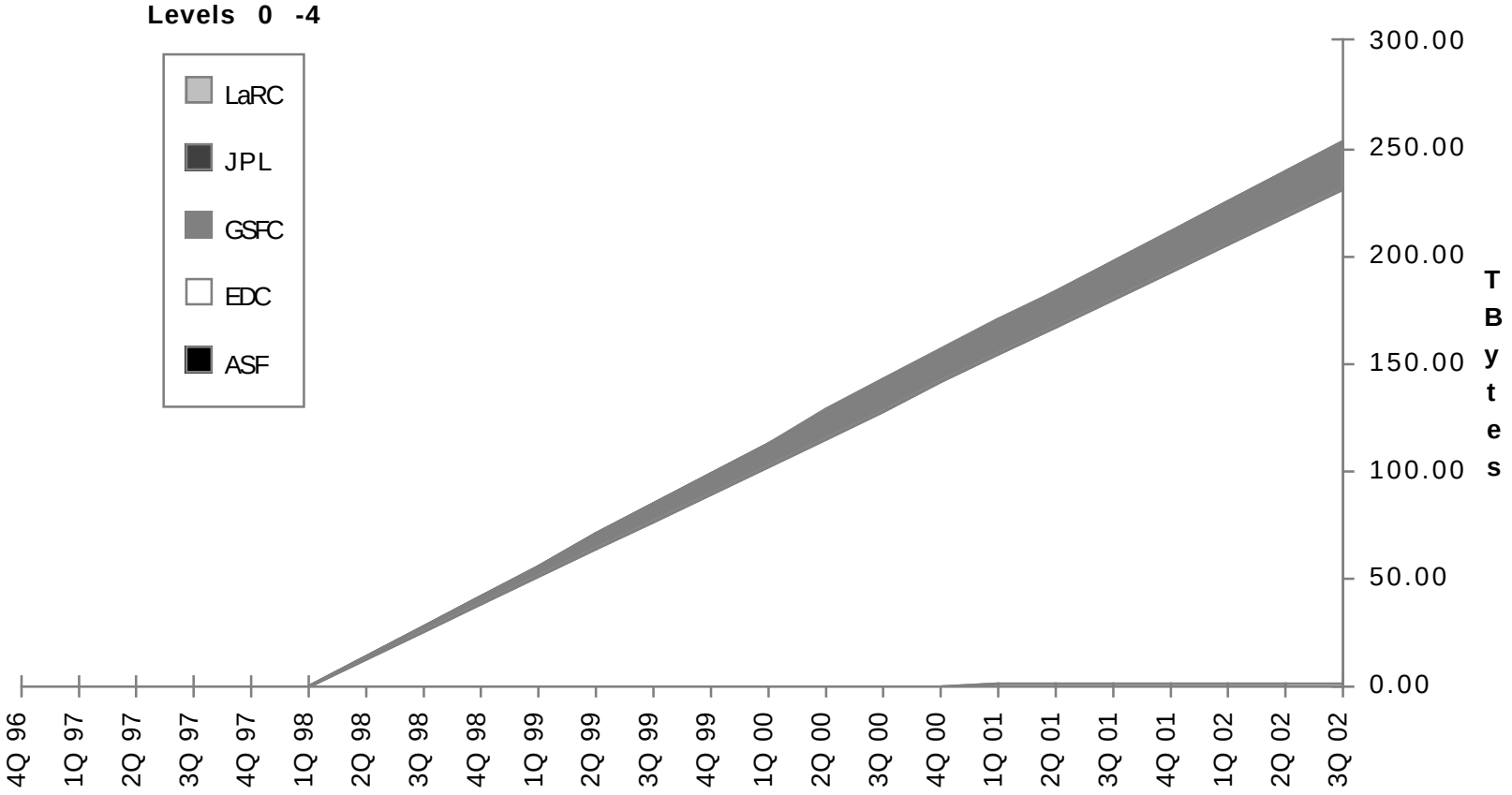
1 Year Rolling Archive for Level 0 (MISR, MODIS, ACRIM)

No Level 0 for ASTER

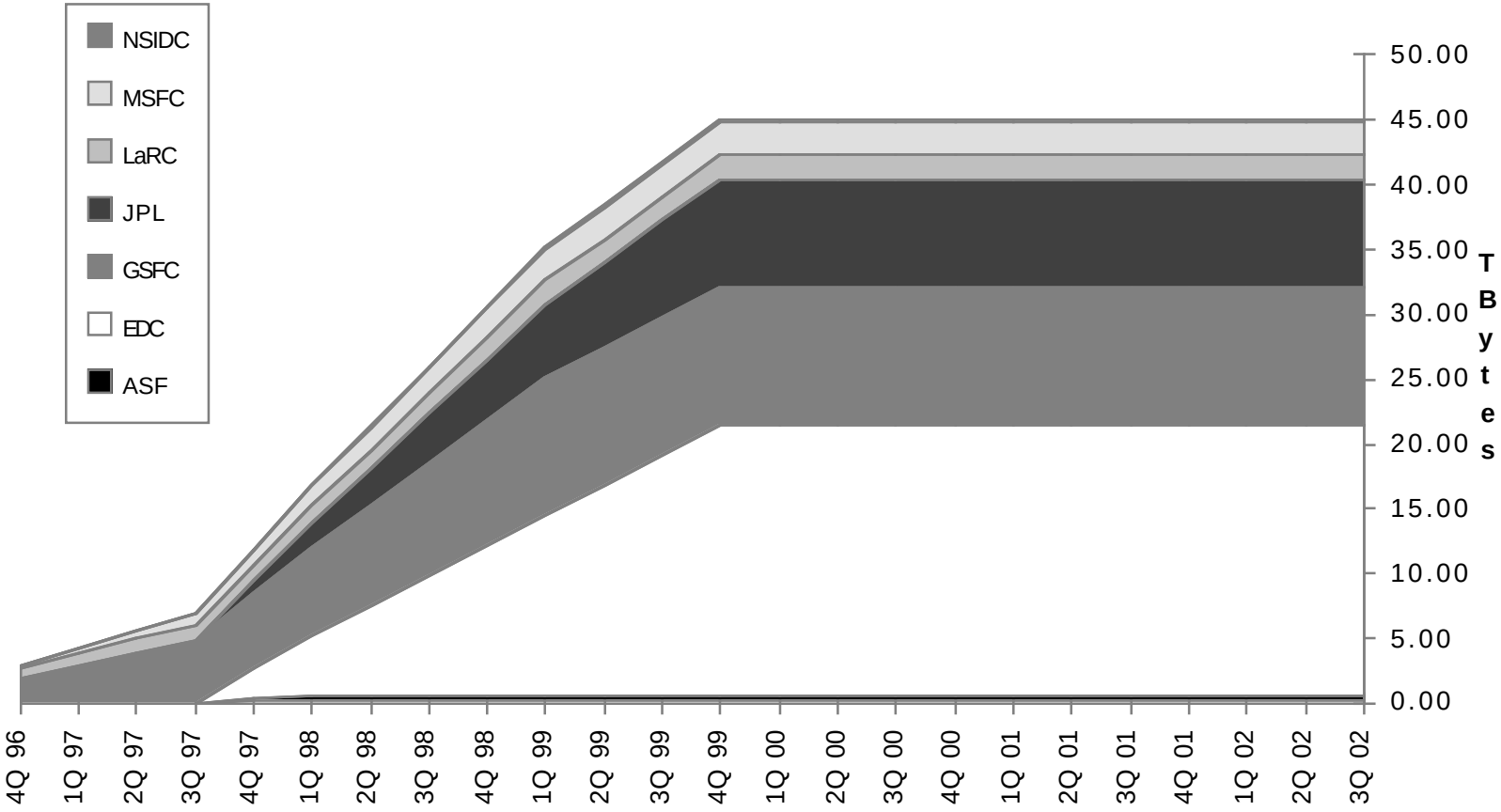
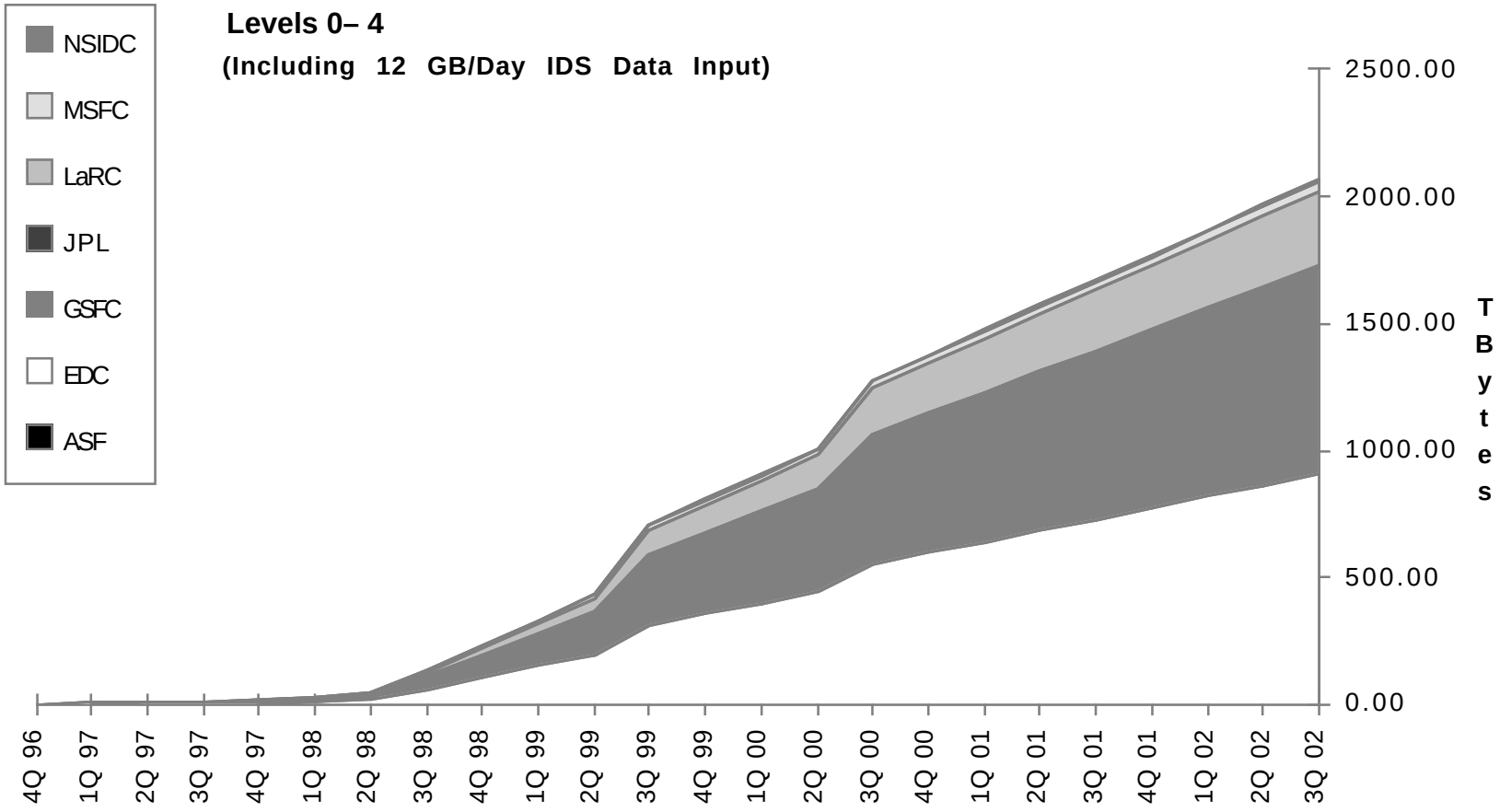
# Data Volume Accumulation (TRMM/AM-1)



# Data Volume Accumulation for Non AM-1/TRMM Instruments



# V0 Data Migration Accumulation



# Total Data Volume Accumulation